

EVOLUTION OF SPECIES

31

These immense changes are shadowed though very faintly by changes that we may see occurring at the present day. The members of no family are exactly alike; they show variations, or "fluctuations," sufficiently pronounced to mark one individual off from another. These fluctuations result in some measure from the blending in various proportions of the traits of the father's and the mother's stock; but there is reason to believe that they are also due to a spontaneous tendency to vary which is inherent in Life.

Variations have been observed amongst unicellular organisms which have come into being by simple cell division. There occur moreover other more substantial variations to which the term "mutation" has been attached. These are very noticeable indeed. Such is a red blossom in a bed of white-flowered plants; a chicken with reversed feathers. They are commonly known as "sports," and are of not infrequent occurrence amongst domesticated animals and plants.

Darwin admitted these mutations into his scheme, but relied for the most part upon the fluctuations which, although far less momentous, are of universal occurrence. Both mutations and fluctuations might be useful or useless; one that was useful assisted the organisms which bore it in the struggle for life, enabled them to outvie their competitors and procreate

young in which
the fluctuation would be a settled
hereditary trait.
Amongst the fluctuations to which the
offspring
were subject would be one which
advanced this
trait towards greater completion : this
would in
like manner become settled and in
this fashion.
during the lapse of ages. a minute
pigment spot
might be developed into a complicated
eye.
Fluctuations. normally spontaneous
and (so to
speak) accidental, might in some
cases be pur-